Patrick S. Goveia
Parker Hannifin
501 S. Sycamore Street
Syracuse, IN 46567

Re: Exempt Construction and Operation Status,
085-15106-00046

Dear Mr. Goveia:

The application from Parker Hannifin, received on December 4, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following emission units, to be located at 501 S. Sycamore Street, Syracuse, Indiana, are classified as exempt:

(a) An 866 lb/hr maximum uncured rubber extruding process, including one (4) inch extruder, one (1) 2500 psi barwell performer, one (1) 2000psi barwell performer, one (1) Crowe cold feed performer, and four (4) 60 inch warm-up mills;

(b) A 966 lb/hr maximum cured rubber molding process, including four (4) casket gasket presses, two (2) injection processes, one (1) vacuum press, and forty (40) hydraulic presses;

(c) A 974 lb/hr maximum rubber finishing process, including two (2) electric recure ovens, six (6) roll dryers, two (2) cryogenic media deflashers, three (3) barwell deflashing tumblers, and two (2) large part washers; and

(d) Thirteen (13) natural gas fired combustion units, with a total maximum rated capacity of 9.73 mmBTU per hour.

(e) One (1) natural gas fired boiler, constructed in 1988, with a maximum rated capacity of 6.1 mmBTU per hour.

(f) Three (3) Precision ovens, identified as ovens # 001, #002, and #003, to post-cure rubber products, each with a maximum production capacity of 11.01 pounds of rubber products per hour, each using a maximum of 0.3 mmBTU per hour of natural gas.

The following conditions shall be applicable:

(1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(2) Pursuant to 326 IAC 6-3-2 (Process Operations), for a maximum process weight rate of less than 100 lb/hr, the PM emissions from each of the three (3) post cure ovens shall be limited to 0.55 lb/hr.

(3) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating: Emission Limitations for Facilities Specified in 326 IAC 6-2-1(d)), the particulate emissions from the boiler, with a maximum rated capacity of 6.1 mmBTU per hour and constructed after September 21, 1983, shall be limited to 0.6 lb/mmBTU.

(4) Any change or modification which may increase the actual emissions of VOC to fifteen (15) pounds per day from this source shall require approval from IDEM, OAQ, prior to making the change.

(5) Any change or modification which may increase the potential to emit of a combination of HAPs to twenty-five (25) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ, prior to making the change.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Kosciusko County
Kosciusko County Health Department
Air Compliance - Doyle Houser
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**Parker Hannifin**
Source Location:	**501 S. Sycamore Street, Syracuse, IN 46567**
County:	**Kosciusko**
SIC Code:	**3061**
Operation Permit No.:	**085-15106-00046**
Permit Reviewer:	**Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Parker Hannifin relating to the construction of three (3) ovens to post-cure rubber parts and the operation of a rubber processing plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) An 866 lb/hr maximum uncured rubber extruding process, including one (4) inch extruder, one (1) 2500 psi barwell performer, one (1) 2000 psi barwell performer, one (1) Crowe cold feed performer, and four (4) 60 inch warm-up mills;

(b) A 966 lb/hr maximum cured rubber molding process, including four (4) casket gasket presses, two (2) injection processes, one (1) vacuum press, and forty (40) hydraulic presses;

(c) A 974 lb/hr maximum rubber finishing process, including two (2) electric recure ovens, six (6) roll dryers, two (2) cryogenic media deflashers, three (3) barwell deflashing tumblers, and two (2) large part washers; and

(d) Thirteen (13) natural gas fired combustion units, with a total maximum rated capacity of 9.73 mmBTU per hour.

(e) One (1) natural gas fired boiler, with a maximum rated capacity of 6.1 mmBTU per hour.

New Emission Units and Pollution Control Equipment

The source also consists of the following new emission units:

(a) Three (3) Precision ovens, identified as ovens # 001, #002, and #003, to post-cure rubber products, each with a maximum production capacity of 11.01 pounds of rubber products per hour, each using a maximum of 0.3 mmBTU per hour of natural gas.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Registration No. 085-3774-00046, issued on November 15, 1994.

The following processes and emission units, included in Registration No. 085-3774-00046, have been permanently removed from the facility: rubber mixing, four (4) hydraulic presses, natural gas fired inline washer and dryer, and surface coating booths.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
001	Oven # 001	24	1.3	5	480
002	Oven # 002	24	1.3	5	480
003	Oven # 003	24	1.3	5	480

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 4, 2001, with additional information received on January 8, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.6
PM-10	0.6
SO_2	Negligible
VOC	2.9
CO	6.2
NOx	7.3

Combination HAPs	0.55

(a) The potential to emit (as defined in 326 IAC 2-7-1 (29)) of PM, PM_{10} is less than five (5) tons, and less than ten (10) tons per year of other criteria pollutants, as well as less than twenty-five (25) tons per year of CO. Therefore, the source is not subject to the provisions of 326 IAC 2-5 and will be granted an exemption.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Kosciusko County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

(a) The natural gas fired boiler is not subject to the requirements of the New Source Performance Standard (NSPS) for small industrial-commercial-institutional steam generating units (326 IAC 12, 40 CFR 60.40c, Subpart Dc), as the maximum design capacity is 6.1 mmBTU per hour, which is less than the 10 mmBTU per hour applicability threshold for this rule.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Kosciusko County and the potential to emit of all pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the rubber processing units at this facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the three (3) post cure ovens shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

For a maximum process weight rate of less than 100 lb/hr, the PM emissions from each of the ovens shall be limited to 0.55 lb/hr. The potential to emit of PM of the three (3) ovens is less than 0.6 tons/year or 0.14 lb/hr. Therefore, the three (3) post cure ovens are in compliance with this rule.

326 IAC 6-2 (Particulate Matter Emissions Limit From Indirect Heating Facilities)

Pursuant to 326 IAC 6-2-4, the particulate emissions from the boiler, constructed after September 21, 1983, shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million BTU heat input.

Q = Total source maximum operating capacity rating in mmBTU per hour = 6.1 mmBTU/hr.

Therefore $Pt = 1.09/(6.1^{0.26}) = 0.68$ lb/mmBTU

According to 326 IAC 6-2, for Q less than 10 mmBTU/hr, Pt shall not exceed 0.6 lb/mmBTU. Therefore, for a maximum rated capacity of 6.1 mmBTU per hour, the PM emissions from the boiler shall be limited to 0.6 lb/mmBTU heat input, or 3.66 lb/hr. The potential to emit of PM of the boiler is less than 0.6 tons/yr or 0.14 lb/hr. Therefore, the boiler at this facility is in compliance with this rule.

Conclusion

The construction of the three (3) post cure ovens and the operation of this rubber processing facility shall be subject to the conditions of the attached proposed Exemption No. 085-15106-00046.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
Company Name: Parker Hannifin Corporation
Address City IN Zip: 501 S. Sycamore Street, Syracuse, IN 46567
CP: 085-15106
Plt ID: 085-00046
Reviewer: Madhurima D. Moulik
Date: January 8, 2002

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
16.7	146.6

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.6	0.6	0.0	7.3	0.4	6.2

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions
Company Name: Parker Hannifin Corporation
Address City IN Zip: 501 S. Sycamore Street, Syracuse, IN 46567
CP: 085-15106
Plt ID: 085-00046
Reviewer: Madhurima D. Moulik
Date: January 8, 2002

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.539E-04	8.793E-05	5.496E-03	1.319E-01	2.491E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.664E-05	8.061E-05	1.026E-04	2.785E-05	1.539E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Emissions Calculations
Rubber Curing - (Hot Air Cure Cmpd #14)

Company Name: Parker Hannifin Corporation
Address City IN Zip: 501 S. Sycamore Street, Syracuse, IN 46567
CP: 085-15106
Plt ID: 085-00046
Reviewer: Madhurima D. Moulik
Date: January 4, 2002

Compound	lb/lb rubber	Oven #1, 2 , 3 (Total)
		tons/yr
1,1,1-Trichloroethane	8.89E-07	0.0001
1,1 Dichloroethane	5.40E-06	0.0008
1,3 Butadiene	5.90E-06	0.0009
2-Butanone	7.62E-06	0.0011
4-Methy-2-Pentanone	2.03E-05	0.0029
Acetophenone	4.19E-07	0.0001
Acrolein	2.03E-05	0.0029
Acrylonitrile	2.89E-04	0.0418
Benzene	1.29E-05	0.0019
Biphenyl	3.04E-08	0.0000
Carbon Disufide	1.05E-04	0.0152
Carbonyl Sulfide	2.79E-04	0.0404
Chloroform	6.04E-07	0.0001
Chloromethane	8.89E-07	0.0001
Di-n-butylphthalate	2.20E-07	0.0000
Dibenzofuran	5.94E-08	0.0000
Dimethylphthalate	2.20E-07	0.0000
Ethylbenzene	1.51E-06	0.0002
Hexane	1.67E-05	0.0024
Isooctane	6.42E-06	0.0009
m-Xylene + p-Xylene	8.24E-06	0.0012
Methylene Chloride	4.13E-05	0.0060
O-Xylene	4.21E-06	0.0006
Phenol	1.31E-06	0.0002
Propylene Oxide	1.72E-04	0.0249
Styrene	1.60E-06	0.0002
Tetrachloroethane	3.49E-06	0.0005
Toluene	3.83E-05	0.0055
Cobination HAPS	1.04E-03	**0.1505**
Total VOCs	1.29E-02	**1.8663**

Emissions Calculations
Rubber Extrusion

Company Name: Parker Hannifin Corporation
Address City IN Zip: 501 S. Sycamore Street, Syracuse, IN 46567
CP: 085-15106
Plt ID: 085-00046
Reviewer: Madhurima D. Moulik
Date: January 8, 2002

Compound	lb/lb rubber	Emissions
		tons/yr
Cobination HAPS	2.27E-05	0.258
Total PM	1.57E-08	0.000
Total VOCs	5.50E-05	0.626

Appendix A: Emissions Calculations

Emissions Calculations
Total Emissions

Company Name: Parker Hannifin Corporation
Address City IN Zip: 501 S. Sycamore Street, Syracuse, IN 46567
CP: 085-15106
Plt ID: 085-00046
Reviewer: Madhurima D. Moulik
Date: January 8, 2002

Process	PM	PM-10	SO2	NOx	VOC	CO	Comb. HAPs
Boiler + Heater + Ovens	0.60	0.60	0.00	7.30	0.40	6.20	0.14
Rubber Curing	0.00	0.00	0.00	0.00	1.87	0.00	0.15
Rubber Extrusion	0.00	0.00	0.00	0.00	0.63	0.00	0.26
Total Emissions	**0.60**	**0.60**	**0.00**	**7.30**	**2.90**	**6.20**	**0.55**